

WHAT IS CLAIMED IS:

1. A resin molding device for molding a resin molded product by injecting a molten resin into the cavity of a metal mold followed by solidification, which comprises an outside air inlet part formed on said metal mold and opened to an optional part of said cavity to allow the outside of said metal mold to communicate with said cavity inside, and a stepped part formed within said cavity of said metal mold orthogonally to the flowing direction of said molten resin injected into the cavity.

2. A resin molding device for molding a resin molded product by injecting a molten resin into the cavity of a metal mold followed by solidification, which comprises a slit formed on said metal mold to allow an optional part of said cavity to communicate with the outside of said metal mold, and a stepped part formed within said cavity of said metal mold orthogonally to the flowing direction of said molten resin introduced into said cavity.

3. A resin molding device according to claim 2 wherein said outside air inlet part or said slit is formed in said stepped part or the boundary of steps of the stepped part.

4. A resin molding device according to claim 1 or claim 2 wherein said stepped part is formed so as to have a plurality of continuous steps.

5. A resin molding device according to claim 1 or claim 2 wherein said stepped part is formed so as to have a plurality of continuous steps, and said outside air inlet part or said slit is formed in the state communicating with said cavity in the area between the steps.

6. A resin molding device according to claim 1 or claim 2 which further comprises a gas feeding means for forcedly feeding a prescribed gas to said outside air inlet part or said slit to feed said gas into said cavity through said outside air inlet part or said slit by said gas feeding means during and after the injection of

said molten resin into said cavity.

7. A resin molding device according to claim 1 or claim 2 which further comprises a gas feeding means for forcedly feeding a prescribed gas to said outside air inlet part or said slit to feed said gas into said cavity through said outside air inlet part or said slit by said gas feeding means after the injection of said molten resin into said cavity.

8. A resin molding method for molding a resin molded product by injecting a molten resin into the cavity of a metal mold followed by solidification, which comprises injecting said molten resin in the state where it climbs over a stepped part formed within said cavity of said metal mold orthogonally to the flowing direction of said molten resin introduced into the cavity while introducing the outside air into said cavity through a prescribed outside air inlet part formed on said metal mold and opened to an optional part of said cavity to allow the outside of said metal mold to communicate with said cavity inside.

9. A resin molding method for molding a resin molded product by injecting a molten resin into the cavity of a metal mold followed by solidification, which comprises injecting said molten resin in the state where it climbs over a stepped part formed within said cavity of said metal mold orthogonally to the flowing direction of said molten resin introduced into the cavity while introducing the outside air into said cavity through a slit formed on said metal mold to allow an optional part of said cavity to communicate with the outside of said metal mold.

10. A resin molded product molding method according to claim 8 or claim 9 wherein said outside air inlet part or said slit is formed in said stepped part or the boundary of steps of the stepped part.

11. A resin molding method according to claim 8 or claim 9 wherein said stepped part is formed so as to have a plurality of continuous steps.

12. A resin molding method according to claim 8 or claim 9 wherein said

stepped part is formed so as to have a plurality of continuous steps, and said outside air inlet part or said slit is formed in the state communicating with said cavity in the area between the steps.

13. A resin molding method according to claim 8 or claim 9 wherein a
5 prescribed gas is fed into said cavity through said outside air inlet part or said slit by a gas feeding means for forcedly feeding said gas to said outside air inlet part or said slit during and after the injection of said molten resin into said cavity.

14. A resin molding method according to claim 8 or claim 9 wherein a
10 prescribed gas is fed into said cavity through said outside air inlet part or said slit by a gas feeding means for forcedly feeding said gas to said outside air inlet part or said slit after the injection of said molten resin into said cavity.

15. A resin molded product molded with a resin molding device according to any one of claims 1, 2, 4, 6 and 7 or a resin molding method according to any one of claims 8, 9, 11, 13 and 14 and comprising a non-transfer part formed in said
15 outlet air inlet part or said slit part.

16. A resin molded product molded with a resin molding device according to claim 3 or claim 5, or a resin molding method according to claim 10 or claim 12 and comprising a non-transfer part formed in said stepped part or the boundary of steps of the stepped part.

20 17. A resin molded product molded with a resin molding device according to claim 1 or claim 2, or a resin molding method according to claim 8 or claim 9 and by using a metal mold having a tooth part recessed part for molding the tooth part of a gear formed within said cavity on said molten resin-flowing directional downstream side from said stepped part as said metal mold, and comprising said
25 tooth part formed thereon.